

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. An identifier indicating the status of each claim is provided.

Listing of Claims

1 – 15. (Canceled)

16. (New) An AM receiver, comprising:

at least one IF filter with a fixed IF bandwidth; and

at least one down-conversion stage to shift the signal input thereto into an IF range,

wherein said at least one down-conversion stage has a variable oscillation frequency which is adjustable to detune a wanted center frequency of a wanted signal part from a center frequency of said at least one IF filter so that an unwanted signal part adjacent to said wanted signal part lies outside said fixed IF bandwidth, and

said AM receiver is configured and adapted for adjusting said variable oscillation frequency on the basis of a feedback signal supplied downstream from said down-conversion stage.

17. (New) The AM receiver according to claim 16, wherein said AM receiver is configured and adapted for detecting said unwanted signal part by:

analyzing the power of FFT carriers outside the wanted signal part; or

bit error rate fine tuning in a digital baseband processing; or

optimizing an automatic gain control voltage.

18. (New) The AM receiver according to claim 16, further comprising a baseband processing stage which readjusts the detuned IF signal to a predetermined center frequency.

19. (New) The AM receiver according to claim 18, wherein said baseband processing stage performs digital operations.

20. (New) The AM receiver according to claim 18, comprising a PLL circuit for adjusting said variable oscillation frequency, wherein said baseband processing stage supplies said feedback signal to said PLL circuit.

21. (New) The AM receiver according to claim 16, wherein said at least one down-conversion stage detunes the IF signal and readjusts the detuned IF signal to a predetermined center frequency.

22. (New) The AM receiver according to claim 16, wherein the AM receiver is a digital shortwave receiver.

23. (New) The AM receiver according the claim 22, wherein the digital shortwave receiver is a Digital Radio Mondial receiver.

24. (New) The AM receiver according to claim 16, wherein said at least one IF filter is an analog filter.

25. (New) The AM receiver according to claim 16, wherein said fixed IF bandwidth is 20 kHz.

26. (New) A method to process a received and optionally processed AM signal, comprising the steps of:

detuning a wanted center frequency of a wanted signal part from a center frequency used during at least one IF filtering with a fixed IF bandwidth so that an unwanted signal part adjacent to said wanted signal part lies outside said fixed IF bandwidth; and

adjusting, on the basis of a feedback signal obtained downstream from said down-conversion stage, a frequency to which said wanted center frequency is detuned.

27. (New) The method according to claim 26, comprising the step of detecting said unwanted signal part by:

analyzing the power of FFT carriers outside the wanted signal part; or

bit error rate fine tuning in a digital baseband processing; or

optimizing an automatic gain control voltage.

28. (New) The method according to claim 26, further comprising the step of readjusting the detuned IF signal to a predetermined center frequency after said at least one IF filtering.

29. (New) The method according to claim 26, used for digital shortwave reception.

30. (New) The method according to claim 29, used for Digital Radio Mondial reception

31. (New) An AM receiver comprising:
an IF filter having a fixed bandwidth and a predetermined center frequency;
a down-conversion stage, arranged upstream from said IF filter, configured and adapted to receive an input signal having a desired signal component having a center frequency;
and

a feedback path for supplying a control signal to said down-conversion stage on the basis of a feedback signal obtained downstream from said down-conversion stage,

wherein said AM receiver is configured and adapted for shifting, by means of said down-conversion stage, said input signal into an IF range on the basis of said control signal such that said center frequency of said shifted input signal is detuned from said center frequency of said IF filter.

32. (New) The AM receiver of claim 31, wherein said AM receiver is configured and adapted for setting said detuned center frequency to a first center frequency and for determining said first center frequency by:

analyzing the power of FFT carriers outside the wanted signal part; or

bit error rate fine tuning in a digital baseband processing; or
optimizing an automatic gain control voltage.

33. (New) The AM receiver of claim 31, further comprising a baseband processing stage, arranged downstream from said IF filter, configured and adapted to shift said detuned input signal to said center frequency of said IF filter.

34. (New) The AM receiver of claim 33,
wherein said feedback path comprises a PLL circuit for supplying said control signal, and
said baseband processing stage supplies said feedback signal to said PLL circuit.

35. (New) An AM receiver comprising:
an IF filter having a fixed bandwidth;
a down-conversion stage, arranged upstream from said IF filter, configured and adapted to receive an input signal having a desired signal component and an undesired signal component adjacent said desired signal component in the frequency domain; and
a feedback path for supplying a control signal to said down-conversion stage on the basis of a feedback signal obtained downstream from said down-conversion stage,
wherein said AM receiver is configured and adapted for shifting, by means of said down-conversion stage, said input signal into an IF range on the basis of said control signal such that said undesired signal component lies at least partially outside said bandwidth of said IF filter.

36. (New) The AM receiver of claim 35, wherein said AM receiver is configured and adapted for detecting said undesired signal component by:

analyzing the power of FFT carriers outside the wanted signal part; or
bit error rate fine tuning in a digital baseband processing; or
optimizing an automatic gain control voltage.

37. (New) The AM receiver of claim 35,
wherein said IF filter has a predetermined center frequency,
said desired signal component has a center frequency, and
said AM receiver is configured and adapted for shifting, by means of said down-conversion stage, said input signal into said IF range such that said center frequency of said shifted input signal is detuned from said center frequency of said IF filter.